



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,817	07/07/2000	Jonathan D. Mohn	AMAT/4666/ETCH/SILICON/JB	6787

32588 7590 10/25/2002

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

DANG, THI D

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 10/25/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

09/611,817

Applicant(s)

MOHN ET AL.

Examiner

Thi Dang

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-32 is/are allowed.
- 6) ☒ Claim(s) 1-4, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) 5-8 and 11-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

The allowance of claims 1-4, 9 and 10 is now withdrawn upon further review.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by *Tepman et al.*

*Tepman* discloses an apparatus for processing wafers, which includes: a chamber body having an internal volume, the internal volume includes two cylindrical regions (14, 36); a substrate support (63) disposed in one cylindrical region; and the other cylindrical region is in communication with an exhaust system (32). The claimed apparatus does not define structurally over that of *Tepman*.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tepman et al.*

*Tepman* does not disclose the relative diameters for the cylindrical regions (14, 36). It is obvious from the drawings that the substrate-processing region (14) has a diameter that is at least 30% larger than the diameter of the exhaust region (36) and is

Art Unit: 1763

at least 20% larger than the substrate support (62). The relative diameters would have been obvious design choice to one of ordinary skill in the art.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tepman et al* in view of *Benjamin et al* (5,820,723).

*Tepman* discloses a RIE type arrangement for the processing region (14) in a preferred embodiment, but the processing region is not limited this arrangement (col. 5, lines 57-63). *Benjamin* teaches that it is conventional to generate plasma in the processing chamber using an inductive-coupling arrangement, wherein a flat, inductive coil is disposed on the top wall of the chamber. It would have been obvious to provide an inductive-coupling arrangement for the processing region of *Tepman* because it would have been obvious to substitute one conventional plasma-generating arrangement for another. In such an arrangement, a flat coil would be placed on top of the cover (or lid 28) of *Tepman's* enclosure and the cover would be made of quartz and flat on top as taught by *Benjamin*.

#### ***Claim Objections***

5. Claim 11 is objected to because of the following informalities: On line 3, the word "and" appears to be missing between the words "region" and "a." Appropriate correction is required.

#### ***Allowable Subject Matter***

6. Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1763

Claims 11-20 are objected to because of the above objection to claim 11 but would be allowable if the appropriate correction is made to claim 11.

Claims 21-32 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art does not disclose a processing chamber having cylindrical regions and exhaust system as claimed, or a liner defining an exhaust region and a processing region as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Tepman et al* is cited to show a related processing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thi Dang whose telephone number is (703) 308-1973. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1763

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*W. Dang*  
1700